

B1  
C24  
A2

a corrosion resistant layer having high thermal conductivity formed over the exterior surface of the exit window foil for resisting corrosion and increasing thermal conductivity.

9B  
B2

12. (Amended) An electron beam emitter comprising:

a vacuum chamber;

an electron generator positioned within the vacuum chamber for generating electrons; and

A3

an exit window on the vacuum chamber through which the electrons exit the vacuum chamber in an electron beam, the exit window comprising an exit window foil about 12 microns thick or less having an interior and an exterior surface, and a corrosion resistant layer having high thermal conductivity formed over the exterior surface of the exit window foil for resisting corrosion and increasing thermal conductivity.

9B  
B3

21. (Amended) A method of forming an exit window for an electron beam emitter through which electrons pass in an electron beam comprising:

A4

providing an exit window foil about 12 microns thick or less having an interior and an exterior surface; and

forming a corrosion resistant layer having high thermal conductivity over the exterior surface of the exit window foil for resisting corrosion and increasing thermal conductivity.

9B  
B4

32. (Amended) A method of forming an electron beam emitter comprising:

providing a vacuum chamber;

positioning an electron generator within the vacuum chamber for generating electrons; and

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mounting an exit window on the vacuum chamber through which the electrons exit the vacuum chamber in an electron beam, the exit window comprising an exit window foil about 12 microns thick or less having an interior and an exterior surface, and

B4  
Cant  
AS

a corrosion resistant layer having high thermal conductivity formed over the exterior surface of the exit window for resisting corrosion and increasing thermal conductivity.

Please add new Claims 41-44.

- sub  
B5
41. (New) An exit window for an electron beam emitter through which electrons pass in an electron beam, the exit window comprising:  
an exit window foil having an interior and an exterior surface; and  
a corrosion resistant layer having high thermal conductivity formed over the exterior surface of the exit window foil for resisting corrosion and increasing thermal conductivity, the exit window foil and the corrosion resistant layer each having a thickness, the thickness of the corrosion resistant layer being about 4% to 8% the thickness of the exit window foil.
42. (New) An exit window for an electron beam emitter through which electrons pass in an electron beam, the exit window comprising:  
an exit window foil having an interior and an exterior surface; and  
a corrosion resistant layer having high thermal conductivity formed over the exterior surface of the exit window foil for resisting corrosion and increasing thermal conductivity, the corrosion resistant layer comprising diamond.
43. (New) A method of forming an exit window for an electron beam emitter through which electrons pass in an electron beam comprising:  
providing an exit window foil having an interior and an exterior surface; and  
forming a corrosion resistant layer having high thermal conductivity over the exterior surface of the exit window foil for resisting corrosion and increasing thermal conductivity, the exit window foil and the corrosion resistant layer each having a thickness, the thickness of the corrosion resistant layer being about 4% to 8% the thickness of the exit window foil.
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